UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

C-CATION TECHNOLOGIES, LLC,

Plaintiff,

v.

COMCAST CORPORATION, CHARTER COMMUNICATIONS, INC., CEQUEL COMMUNICATIONS, LLC dba SUDDENLINK COMMUNICATIONS, CABLE ONE, INC., ALMEGA CABLE INC., LONGVIEW CABLE TELEVISION COMPANY, INC., and KILGORE VIDEO, INC.,

Defendants.

Case No. 2:11-CV-00030-JRG-RSP

Judge: Hon. Rodney Gilstrap

DEFENDANTS' RESPONSIVE CLAIM CONSTRUCTION BRIEF

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I. INTRODUCTION

Plaintiff C-Cation Technologies, LLC ("C-Cation"), the current assignee of the patent-in-suit, seeks in its Opening Brief to erase and evade claim terms the patentee selected during prosecution of the patent, but which C-Cation now finds inconvenient to the infringement allegations it hopes to advance against Defendants. Where C-Cation fears it cannot convince this Court to ignore carefully chosen language limiting the claims of the patent-in-suit, C-Cation argues that this Court should refrain from offering the jury any guidance whatsoever on such terms. In these instances, C-Cation prefers that the jury remain ignorant of how these terms would be construed by one of ordinary skill in this complicated field. Defendants ask this Court to reject C-Cation's cynical stratagem.

Unites States Patent No. 5,563,883 ("the '883 patent") to Dr. Alexander Cheng concerns two-way communications between a "central controller" and a number of "remote terminals" on a shared transmission media. The patent acknowledges substantial prior art in the field: well-known methods to manage networks in which multiple terminals share communication channels connecting them with a central controller. The '883 patent purports to improve upon the prior art in two areas. *First*, it discloses "a dynamic process … to adjust the number of signalling channels to meet the requirements of varying traffic demand and system growth." Ex. 1 ('883 patent) at Col. 2:43-45. In other words, the patent explains a method whereby remote terminals can be reassigned to different signalling channels when the need arises. *Second*, "[i]ntegrated with the channel allocation and terminal assignment process, the present invention also presents an efficient controlled multiple access method." *Id.* at Col. 2:52-54. This aspect of the invention concerns a particular method for determining which of the remote terminals will be allowed to transmit when two or more seek to transmit at the same time.

The patent and its claims employ well-known telecommunications terminology, describing channels for "signalling data" separate from the channels for "bearer traffic," for example. Signalling

data was well-understood as data that established and controlled the channel carrying user information, such as a phone call, while the actual content of the telephone call was referred to as "bearer traffic." C-Cation asks this Court to ignore these understandings in the art, ignore the descriptions in the patent's specification that confirm these understandings, and ignore the structure and context of the claims themselves that mandate a construction consistent with these well-understood meanings. In C-Cation's constructions, "signalling data channels" become mere "channels," expressly claimed requirements (such as "needs") become nothing more than options, and limitations inserted to overcome prior art are redefined to constitute no limitation at all on the scope of the claimed invention.

In contrast, Defendants have proposed constructions that give meaning to all claim terms, and that comport with the understandings of those in the art and the description of the invention set forth in the specification.

II. BACKGROUND

A. Technology Background

This brief is intended to be read in concert with Defendants' Technology Tutorial, which explains some of the purported problems relating to "signalling data channels" and multiple-access communication networks that the '883 patent was intended to address, and the methods proposed by the '883 patent to address those problems as compared to some of the prior art.

B. The '883 Patent and Asserted Claims

The '883 patent application was filed on July 18, 1994 and issued on October 8, 1996. The asserted claims of the '883 patent (claims 1, 3-7, 10, and 12) fall into two categories:

- Signalling Data Channel Assignment: Claims 1, 3, 4, and 5 all pertain to allocating signalling data channels between a central controller and a plurality of remote terminals. *See, e.g.*, Ex. 1 at claim 1; *see also id.* at Col. 2:48-51.

- Polling and Contention Resolution for Multiple Access: Claims 6, 7, 10, and 12 all pertain to a method of controlled multiple access between a central controller and a plurality of remote terminals. *See, e.g.*, Ex. 1 at claim 6. The allegedly novel multiple-access method involves a general polling scheme followed by a "selective polling sequence for contention resolution." *See id.* at Col. 2:25-32; Col. 2:51-58.

III. LEGAL STANDARDS

The starting point for claim construction is how a person of ordinary skill in the relevant art would understand the claim terms at the time of the purported invention. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc). The specification is deemed "always highly relevant to the claim construction analysis" and "[u]sually … dispositive; it is the single best guide to the meaning of a disputed term." *Id*. at 1313-15 (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). Indeed, "[t]he claims cannot be of broader scope than the invention that is set forth in the specification." *On Demand Mach. Corp. v. Ingram Indus., Inc.*, 442 F.3d 1331, 1340 (Fed. Cir. 2006). The Court may also consider extrinsic evidence when appropriate, including technical dictionaries and materials that evince the inventor's intentions and scope of the invention, to arrive at a proper claim construction. *See Phillips*, 415 F.3d at 1314; *Vitronics*, 90 F.3d. at 1583.

IV. ARGUMENT

A. Signalling Data Channels and Related Claim Terms

The claim-construction disputes surrounding terms pertaining to "signalling data channels" reflect a fundamental difference between the parties' competing views of the claimed '883 invention. C-Cation endeavors to erase the distinction between channels for signalling data and channels for user traffic, but a brief review of the patent's relevant description of these channels demonstrates that this would improperly expand the scope of the claims beyond the described invention.

The "Brief Summary of the Invention" of the '883 patent describes the "multiple-access

communications system architecture" of the invention. *See* Ex. 1 at Col. 2:65-3:1; Fig. 1 (below).

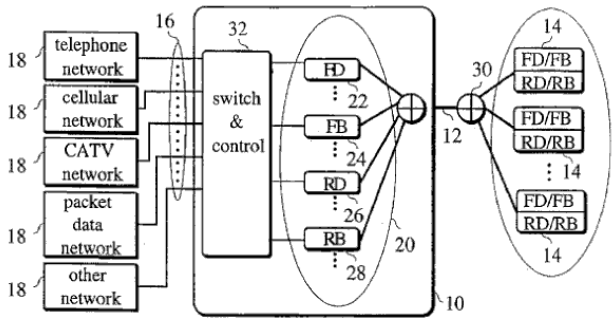

Figure 1

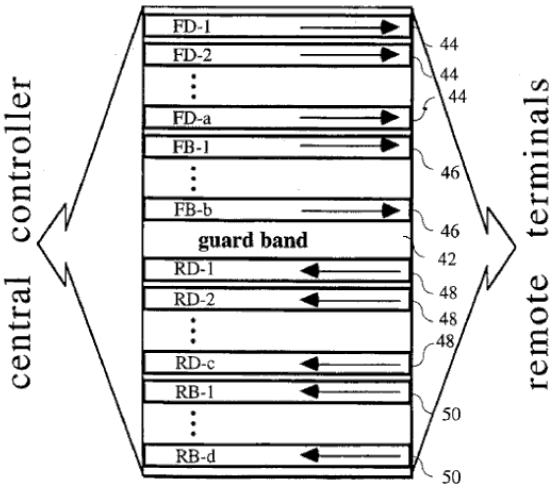

Figure 2

Communication between a "central controller" (10) and "a plurality of remote terminals" (14) is accomplished by communication channels (20) over shared transmission media (12). *See id.* at Col. 3:4-1 and Fig. 1. The communication channels in the network are "separated into four categories … for carrying signalling data and user traffic in the forward and reverse directions, i.e., forward signalling data or FD channel, forward traffic bearer or FB channel, reverse signalling data or RD channel, and reverse traffic bearer or RB channel." *Id.* at Col. 3:4-11; *see also id.* at Col. 5:8-21 (providing the same description for the preferred embodiment); Abstract ("The communication channels … are arranged for signalling data and traffic bearer channels in the forward and reverse directions."). The "FD" and "RD" channels are thus used "for carrying signalling data … in the forward and reverse directions," while the "FB" and "RB" channels are used "for carrying … user traffic in the forward and reverse directions[.]" *See id.* at Col. 3:4-11 and Fig. 2 (above).[1]

The "signalling data channels" and "user traffic (or 'bearer') channels" of the '883 patent

[1] As explained in Defendants' Technology Tutorial, this distinction between "D" channels for signalling and "B" channels for user or "bearer" traffic had already long been in use in the ISDN context by the time of the '883 patent. *See* Ex. 2 (U.S. Patent No. 5,642,155, filed by Dr. Cheng in Sept. 1994) at Col. 6:27-50 ("This is an extension to the ISDN concept with a number of bearer (B) channels to be allocated dynamically to each subscriber using a common signalling (D) channel.").

serve different purposes and so are managed differently. The "signalling data channels" are used, for example, to set up "traffic bearer channels" for a telephone call, hence the patent's listing in Fig. 9 of various types of "signalling data" as including "on-hook," "off-hook," "ringing," and other standard telephony signals. The "signalling data channels" are also used to establish such "traffic bearer channels" "via signalling protocol" in every instance where a "dedicated channel is required to meet the user's need" to transmit user traffic. *See id.* at Col. 7:46-49. The "signalling data channels" also allocate the "traffic bearer channels" to remote terminals. *See id.* at Col. 6:35-37; *see also id.* at Col. 3:61-63 ("The traffic bearer channel is used once the circuit is established via signalling protocol over the signalling data channel").

The entire '883 patent is premised on the engrained understanding in telephony that "multiple access networks" would have distinct "signalling data channels" and "traffic bearer channels." The '883 patent does not even contemplate a system where signalling and all user traffic share the same channel, or where there is no meaningful difference between signalling and user traffic. Yet those are effectively the constructions that C-Cation has proposed, which the Court should thus reject.

1. Claims 1, 3, 4, 5, 6, and 7: "signalling data channel(s)"

Defendants' Proposed Construction	C-Cation's Proposed Construction
the exclusive channel(s) for carrying the signalling data and no more than sporadic (*i.e.*, infrequent, isolated) user information, as distinct from channel(s) dedicated to carrying only user information	channel(s) used for carrying signalling or data traffic

There is no dispute between the parties that a "signalling data channel" carries signalling data. *See, e.g., id.* at Col. 3:4-11 (signalling data channels "support communications between the central controller and the remote terminals … for carrying signalling data … in the forward and reverse directions"). C-Cation's construction however—taken from one, isolated line in the specification—is so open-ended that the term would effectively mean "any channel." Defendants' construction

clarifies the term in two important ways: that (1) a signalling data channel is the exclusive channel for carrying signalling data; and (2) a signalling data channel can carry no more than "sporadic" user traffic; that is, it is not the replacement for a traffic bearer channel.

The '883 patent is premised upon there being a distinction between "signalling data channels" and "traffic bearer channels." *See id.* at Col. 3:4-11 (specifying distinct "traffic bearer channels" and "signalling data channels"). Dr. Cheng acknowledged at the time of his application that there were already "proposals to dynamically allocate *traffic-bearing channels* to meet the service requirements in terms of lower blocking probability." *Id.* at Col. 1:32-35 (emphasis added); *id.* at Col. 1:60-64 ("There are many proposals of means for dynamically adjusting the number of *traffic-bearing channels* according to varying traffic demands or the transmission quality ….") (emphasis added).

Drawing a clear distinction between *signalling data channels* and channels that carried *user traffic*, Dr. Cheng announced that his invention sought to extend this dynamic allocation to these separate and distinct *signalling data channels. See id.* at Col. 2:5-7 ("The present invention presents a method to dynamically allocate *both* signalling data *and* traffic-bearing channels[.]") (emphasis added).[2] According to Dr. Cheng, the object of his invention was:

> [T]o present [a] flexible and extensible method for *signalling channel management*; [and a] flexible and extensible method for assigning remote terminals to the *signalling channels*[.]

Id. at Col. 2:36-41 (emphasis added); *see also id.* at Col. 4:1-9.

C-Cation makes no effort in its brief to dispute that a signalling data channel is the exclusive channel for signalling data. C-Cation's sole objection to Defendants' construction is its requirement that a "signalling data channel" carry "no more than *sporadic* user data." But these are the very words used by the patentee to define a "signalling data channel." *See id.* at Col. 3:52-55 (stating that

[2] Dr. Cheng repeatedly emphasized that his invention focused on—and claimed—improvements to the signalling data channel. *See, e.g.*, Ex. 1 at Col. 3:52-55; Col. 3:61-63; Col. 6:35-37; Col. 7:46-49.

"signalling data channels" may also carry "*sporadic* user data transfer") (emphasis added); *see also id.* at Col. 7:41-43 (same); *id.* at Col. 13:8-13 (describing the "signalling data channels" as carrying "*sporadic* user data") (emphasis added); *id.* at Col. 13:17-19 (same); *id.* at Col. 13:59-63 (same).

In fact, the patent contains no reference to signalling data channels serving as a significant carrier of user or bearer traffic. Instead, to communicate user data—which is the ostensible purpose of these communications systems—"traffic bearer channels" are established "via signalling protocol over the signalling data channels" to send that "user information." *E.g.*, *id.* at Col. 3:61-63; *see also id.* at Col. 7:46-49 ("If dedicated channel is required to meet the user's need, the traffic bearer channel is established via signalling protocol over the signalling data channels."). Indeed, for an invention concerned principally with the responsiveness of the signalling data channels, *see, e.g.*, *id.* at Col. 1:35-38, it would run counter to that purpose for these signalling data channels to be further burdened with substantial user traffic.

C-Cation also accuses Defendants of limiting this claim term by resorting to the Summary of the Invention, but C-Cation has it backward. The ordinary meaning of "signalling data channel" to one skilled in the art would be a channel that *only* carries signalling data.[3] In resorting to the specification, Defendants sought only to recognize that the patentee indicated that a "signalling data channel" may also carry "no more than sporadic (i.e., infrequent, isolated) user information[.]" This is a *broadening* of the ordinary meaning of the term to reflect the scope of the patent disclosure. *See Phillips*, 415 F.3d at 1316 ("[T]he specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. In such cases, the inventor's lexicography governs.").

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[3] *Hargrave's Communication Dictionary* and the *Federal Standard 1037B Telecommunications* glossary define "signalling path" as completely distinct from bearer traffic: as one for signalling "rather than for the data, messages or calls of the users." *See* Ex. 3 (Hargrave's Communication Dictionary) at 471; Ex. 4(Federal Standard 1037B Telecommunications) at S-9.

The sole quotation from the patent's specification upon which C-Cation relies for its construction is, in fact, fully consistent with Defendants' construction. The phrase reads, in its entirety: "Data channels are used for carrying signalling or data traffic *while bearer channels are used for carrying user traffic* similar to circuits in telephone." *See* Ex. 1 at Col. 5:59-62 (emphasis added). Whatever "data channels" carry, according to this statement, it is NOT *user traffic*.[4] By contrast, C-Cation's construction could be interpreted as allowing all user traffic to be carried on a signalling data channel. That would be a "construction divorced from the context of the written description and prosecution history," and therefore improper. *Nystom v. TREX Co., Inc.*, 424 F.3d 1136, 1144-45 (Fed. Cir. 2005). In fact, it would effectively rewrite "signalling data channel" into nothing more than "any communication channel." Such a construction cannot be correct and is at odds with the language of the claims. *See Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 951 (Fed. Cir. 2006) (rejecting a construction that read limitations out of the claims because it "would that be contrary to the principle that claim language should not treated [sic] as meaningless"); *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1119 (Fed. Cir. 2004) (rejecting a construction of "operatively connected" that read "operatively" out of the claim because "all claim terms are presumed to have meaning in a claim" and "the patentee could have as easily used the term 'connected' alone").

2. Claims 1, 3, 4, 5, 6, and 7: "signalling data"

Defendants' Proposed Construction	C-Cation's Proposed Construction
information that establishes and controls channels over which the central controller and remote terminals communicate	information concerned with the control of communications

[4] It also bears mentioning that this statement makes reference to "data channels," but the precise species of communication channels in the disputed claims is identified as "*signalling data* channels." *See, e.g.*, Ex. 1 at claim 1 ("In a multiple access communication system … allocating signalling data channels … from a plurality of communication channels ….").

The parties' dispute regarding the "signalling data" term concerns whether it should be given an uncertain construction encompassing any data that is merely "*concerned* with the control of [any] communications" (C-Cation's construction), or whether the jury should receive more meaningful guidance regarding the attributes of this data.

As was well-understood in the field, "signalling" establishes and controls the communication channels between the central controller and remote terminals. The specification explains that a "traffic bearer channel is *established* via signalling protocol over the signalling data channels," *see, e.g.*, Ex. 1 at Col. 7:46-49 (emphasis added), and that such a channel is then "allocated" to a remote terminal via a "signalling protocol[.]" *See id.* at Col. 6:35-37; *see also id.* at Col. 3:61-63.

Likewise, technical glossaries overwhelmingly support Defendants' construction. The 1993 and 1996 editions of the "IEEE Standard Dictionary of Electrical and Electronic Terms" define "signalling" as "methods used … *to establish and control* connections" and "[t]he exchange of information specifically concerned with *the establishment and control* of connections[.]" *See* Ex. 5 (IEEE Standard Dictionary of Electrical and Electronic Terms, 1993 ed.) at 1220 (emphasis added); Ex. 6 (IEEE Standard Dictionary of Electrical and Electronic Terms, 1996 ed.) at 989 (emphasis added). The *Federal Standard 1037B Telecommunications* glossary provides a similar definition of "signalling." *See* Ex. 4 at S-9 ("In a telecommunications network, the information exchange concerning *establishment and control* of a connection and management of the network, in contrast to user information transfer[.]") (emphasis added).[5]

C-Cation's argument that Defendants' construction reads out an embodiment is simply not true. The commands identified from Fig. 9—"in-coming call command," "release command," "on

[5] The '883 patent itself uses "signalling protocols" to refer to the methods used to establish and control channels between the remote terminals and the central controller. *See* Ex. 1 at Col. 1:30-32 ("In all of these multiple access schemes the contention for access is resolved through signalling protocols[.]"); *see also id.* at Col. 1:40-43.

hook," "off hook," "ringing" and "dial digits"— all involve "establish[ing] and control[ling] channels" of communication (in this case, telephone call bearer channels) between the remote terminals and central controller, consistent with Defendants' construction. *See* Ex. 1 at Col. 4:45-47 and Fig. 9.

C-Cation, by contrast, urges a construction that encompasses data that is merely *concerned* with controlling *any* communications in any way, shape, or form. In advancing this vague formulation, C-Cation would be able to characterize user traffic as signalling data, and thereby erase the distinction between "signalling data channels" and user traffic channels.[6] But as noted above, Dr. Cheng was well aware of the extensive art "for allocation of traffic-bearing channels," *see id.* at Col. 1:64-66, and was careful only to claim novelty in "a dynamic process … to adjust the number of signalling channels to meet the requirements of varying traffic demand and system growth." *Id.* at Col. 2:43-46. The Court should adopt Defendants' construction.

3. Claim 1: "user information"

Defendants' Proposed Construction	C-Cation's Proposed Construction
information, distinct from the signalling data, transmitted to or from end users of the system; also called user data or user traffic	Plain and ordinary meaning. To the extent construction is deemed necessary: information intended for a user or sent from a user

"User data," "user traffic," and "bearer traffic" are used interchangeably to refer to the source information coming from and going to each end user. In the telephony context from which Dr. Cheng came, these refer to the actual content of a telephone call, for example.

The claims and the specification of the'883 patent distinguish *signalling data* on one hand

[6] For example, requesting web-page content, clicking "send" on an Internet email program like Gmail, and placing a Skype or Vonage phone call are all user traffic since they do nothing to control communications between a remote terminal and the central controller. But under C-Cation's construction, they could be characterized as "signalling data" since they are "concerned with the control of [any] communications."

from *user information* or *user traffic* on the other. *See, e.g., id.* at claim 1 ("a shared transmission means for *signalling data* and *user information*") (emphasis added); *see also id.* at Col. 3:4-11; Col. 5:15-21. The *Federal Standard 1037B Telecommunications* glossary confirms this same distinction. *See* Ex. 4 at S-9 (defining "signalling" as: "In a telecommunications network, the information exchange concerning establishment and control of a connection and management of the network, *in contrast to user information transfer[.]*") (emphasis added). Defendants' construction comports with the patent usage and conventional understanding.

C-Cation's proposed construction—"information intended for a user or sent from a user"—is so vague and overbroad that it could include even "signalling data," the very object with which it is meant to contrast. The Court should adopt Defendants' proposed construction of "user information."

B. Claims 1 and 6: "shared transmission means" and "a shared transmission means for signalling data and user information"

Claim Term	Defendants' Proposed Construction	C-Cation's Proposed Construction
a shared transmission means for signalling data and user information (claim 1)	If construed under § 112(6): Function: carrying both signalling data and user information Structure: a physical medium or media having forward and reverse bandwidth separated into dedicated signalling data channels and user traffic channels as shown in Fig. 2. If not construed under § 112(6): a physical medium or media having forward and reverse and bandwidth separated into dedicated signalling data channels and dedicated user traffic channels	Phrase should be given its ordinary meaning and does not require construction. To the extent construction is deemed necessary: a medium for transmitting signalling data and user information between a plurality of remote terminals Phrase should not be construed under 35 U.S.C. § 112(6). If, however, construction under 35 U.S.C. § 112(6) is deemed appropriate: Function: shared transmission of signalling data and user information Structure: includes: (1) airwaves; (2) coaxial cable; (3) fibre optic cable; or (4) wires
a shared transmission means (claim 6)	Same proposed construction as "a shared transmission means for signalling data and user	Phrase should be given its ordinary meaning and does not require construction. To the extent construction

	information"	is deemed necessary: a medium for transmitting communications between a plurality of remote terminals and a central controller Phrase should not be construed under 35 U.S.C. § 112(6). If, however, construction under 35 U.S.C. § 112(6) is deemed appropriate: Function: shared transmission Structure: includes: (1) airwaves; (2) coaxial cable; (3) fibre optic cable; or (4) wires

Although the terms appear in the preamble, the Court should construe "shared transmission means for signalling data and user information" (claim 1) and "shared transmission means" (claim 6) as means-plus-function limitations under 35 U.S.C. § 112(6).

The respective preambles of claims 1 and 6 "focus the reader on the invention being claimed" and recite a "framework" that is "fundamental" to the claimed invention, and as a consequence are properly construed as limitations. *See On Demand,* 442 F. 3d at 1343-44; *see also General Elec. Co. v. Nintendo Co.*, 179 F.3d 1350, 1361-62 (Fed. Cir. 1999) (preamble limiting where "inventors were working on the particular problem of displaying binary data on a raster scan display device and not general improvements to all display systems"). Dr. Cheng repeatedly emphasized that his invention was "based on a shared transmission media," *see* Ex. 1 at Col. 1:6-12, and sought to overcome problems of providing "multiple access" caused by contention in such "shared common transmission media." *See id.* at Col. 1:15-20; *see also id.* at Col. 2:65-3:1.

In addition, numerous limitations in the body of each claim rely on these preambles for antecedent basis (*e.g.*, "said central controller" and "said plurality of remote terminals" in claims 1(a) and 6(a)). When a patentee employs the preamble in this manner, it is properly construed as limiting. *See, e.g., Deere & Co. v. Bush Hog, LLC,* 703 F.3d 1349, 1357 (Fed. Cir. 2012). The claimed system

is structurally incomplete without the "shared transmission means." The "signalling data channels" recited in the claim body are described in the preambles to be a species of the system's "communication channels." The '883 specification explains that a "shared transmission means" structure is required for all the communication channels recited in the claim. *See* Ex. 1 at Col. 4:26-29; *see also id.* at Col. 6:25-26.

The disputed terms above should also be construed as means-plus-function limitations under 35 U.S.C. § 112(6) because each recites a means for performing a specified function without reciting a corresponding structure. *See Baran v. Medical Device Techs., Inc.*, 616 F.3d 1309, 1317 (Fed. Cir. 2010) (construing "release means" under § 112(6) with "release" as the specified function); *see also Harris Corp. v. Ericsson Inc.*, 417 F.3d 1241, 1248 (Fed. Cir. 2005) (use of the word "means" presumptively invokes § 112(6)). Here, the claim language provides that both signalling data and user information share the transmission means, but recites no structure for doing so. The specification, however, discloses the corresponding structure in Fig. 2, which "shows the channelization of the communication bandwidth of the shared transmission media between the central controller and the remote terminals for different functions." *See* Ex. 1 at Col. 4:26-29 and Fig. 2 (shown again below).

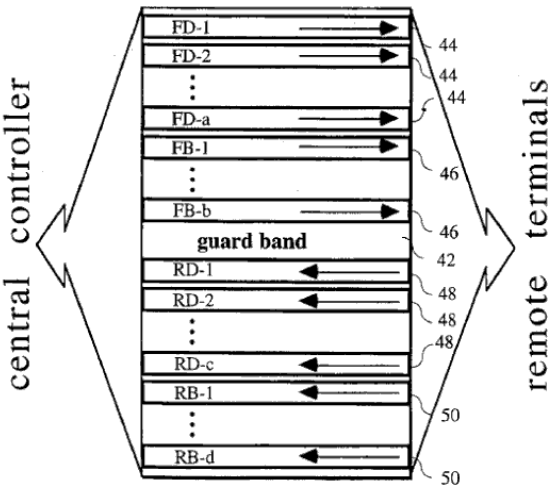

Figure 2

The specification further explains that these channels are "separated into four categories … for carrying signalling data and user traffic in the forward and reverse directions." *Id*. at Col. 2:65-3:13; *see also id.* at Col. 5:58-62. Defendants' proposed corresponding structure for the "shared transmission means" elements comes directly from these disclosures.[7] *See Noah Sys., Inc. v. Intuit Inc.*, 675 F.3d 1302, 1311 (Fed. Cir. 2012) ("corresponding structure" is that which the intrinsic evidence "clearly links or associates … to the function recited in the claim"). C-Cation's construction, by contrast, improperly seeks to cover *all* structures that *could* perform the function of "carrying both signalling data and user information" whether or not the patent links such structures to the function. C-Cation's construction also purports to convert the disputed terms into purely functional claim elements, which is precisely what Section 112 ¶ 6 was designed to prevent. *Id.* at 1318. Indeed, many of C-Cation's proposed structures (*e.g.*, "airwaves," "fibre optic cable," and "wires") appear nowhere in the specification. The Court should thus reject C-Cation's construction and adopt Defendants'.

C. Claims 1, 3, 4, 6, 7, 10, and 12: "remote terminals"

Defendants' Proposed Construction	C-Cation's Proposed Construction
equipment for forward and reverse communication with a central controller over a specified pair of dedicated signalling data channels and dedicated user traffic channels	communication devices at a location remote from the central controller

Although much of the proposed language is different, the parties' main substantive dispute is whether the remote terminals of the invention must accommodate separate signalling and user traffic channels. Because the '883 patent describes the "invention" as such, the Court should construe "remote terminals" consistently, as Defendants propose.

[7] For the same reasons, these terms should be construed as "a physical medium or media having forward and reverse bandwidth separated into dedicated signalling data channels and dedicated user traffic channels" even if the Court does *not* construe these terms under 35 U.S.C. § 112(6).

Where the description of the "invention" itself explicitly recites a feature, the claims must be construed with that feature. *Netcraft Corp. v. eBay, Inc*., 549 F.3d 1394, 1397-1401 (Fed. Cir. 2008) ("communications link" construed to mean "Internet communications link" based on the description of the "present invention" and the summary of the invention, where no alternative was disclosed); *Honeywell Int'l, Inc. v. ITT Indus.*, 452 F.3d 1312, 1318 (Fed. Cir. 2006) (limiting the claims to a fuel filter for the same reasons).

The '883 patent states that "[t]he present invention presents a method to dynamically allocate both signalling data and traffic-bearing channels and to dynamically assign remote terminals to these channels." Ex. 1 at Col. 2:4-7. Claim 1 recites that the method is performed in a "system … for signalling data and user information." And C-Cation itself concedes that the remote terminals of the invention will need to use dedicated "traffic bearer channels," in addition to signalling data channels, in at least some instances. *See* Dkt. 187 at 1.

Defendants' construction is further supported by the Summary of the Invention, which explains that each remote terminal "has" the capability to communicate over both signalling data and user traffic bearer channels. Ex. 1 at Col. 3:14-24. The remainder of the specification is consistent. *See, e.g., id.* at Col. 5:46-53; *id.* at Abstract ("The communication channels between the central controller and remote terminals are arranged for signalling data and traffic bearer channels in the forward and reverse directions."). The patent never discloses an alternative to this terminal structure, nor could an alternative structure function in the claimed invention.

D. "Predetermined" and "Pair of" Signalling Data Channels

Claim Term	Defendants' Proposed Construction	C-Cation's Proposed Construction
pair of predetermined signalling channels (claims 1, 4, and 5)	one forward and one reverse signalling data channel that are uniquely coupled and that are specified in the remote terminal and central controller before any	a forward signalling data channel and a reverse signalling data channel determined prior to assignment

	attempted communication between the two	
predetermined signalling data channels of a plurality of signalling data channels (claim 6)	one forward and one reverse signalling data channel that are specified in each remote terminal and the central controller before any attempted communication between the two	a forward signalling data channel and a reverse signalling data channel determined prior to assignment
each of said plurality of remote terminals can be assigned to any pair of said plurality of signalling data channels	each remote terminal may be assigned to any uniquely coupled forward and reverse signalling data channels	each remote terminal may be assigned to any forward signalling data channel and reverse signalling data channel

Step (a) of claim 1 and step (a) of claim 6 are directed to the same methodology for "establishing" communications between the central controller and remote terminals, as C-Cation concedes. *See* Dkt. 187 at 19. The disputed limitations of steps (a), centering on the meaning of "predetermined" and "pair," will therefore be treated together below.

1. "Predetermined" Signalling Data Channels

According to the claims, the central controller and remote terminals of the claimed invention "establish" communications over "predetermined" signalling data channels. In other words, communication between the central controller and a remote terminal are established (*i.e.* brought into existence) on channels that are determined *before* any such communication exists (*i.e.* *pre*determined).

The specification confirms that "predetermined" means the remote terminals know beforehand on what channel to listen for the central controller, and the central controller knows beforehand on what channel to listen for the terminals:

> *Initially* the *remote terminals will listen to a general poll on FD-1* for registration …. Once a general poll is sensed on the forward signalling data channel, the remote *terminal responds first on RD-1*[.]

Ex. 1 at Col. 8:61-9:2 (emphasis added). The '883 patent calls these predetermined FD-1 and RD-1

channels the "primary" forward and reverse signalling data channels. *Id.* at Col. 6:47-51. And the patent reiterates that these "primary" FD-1 and RD-1 signalling data channels are the channels used at "startup" so that communications can be established:

> *At startup*, the modulator and the demodulator are *tuned to the primary* forward and reverse signalling data channels respectively.

Id. at Col. 14:1-3 (emphasis added). The patent's description that the remote terminals are tuned "at startup" (when the devices are first powered on and thus could not yet have communicated) to particular channels confirms Defendants' construction that the "predetermined" channels recited in the claims refers to channels that are identified in the devices prior to any attempt to establish communications.[8] Dr. Cheng described no other method for the remote terminals and central controller to establish communications, either initially or following a subsequent communications failure.[9]

The "predetermined" limitations were added during prosecution in response to the Examiner's rejections in an effort, among other things, to distinguish over prior art. For example, unlike the immediate "reversion" to the "primary" forward and reverse channels in the event of power failure made possible by the invention's "*pre*determined" pair of signalling data channels, the patentee emphasized that the remote terminals in the prior art reference had to seek out (scan for) the proper channel:

> Or when failure occurs, the [*Grauel* prior art] base station is to change a traffic channel to a control channel implying that every mobile radio

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[8] These "predetermined" channels stand in contrast to the channels that are assigned by the central controller by means of the patented method. The central controller does not have a role in assigning these initially *pre*determined channels.

[9] The '883 patent further notes that the "primary" forward and reverse channels are default channels to which both the remote terminals and central controller will "revert back to" in the event that they cannot communicate with each other. Ex. 1 at Col. 6:41-46. C-Cation's "power outage" presentation in its Technology Tutorial is wholly at odds with this description in the patent, where the system benefits from these default predetermined channels.

station has to scan all data channel for this change.

Ex. 7 ('883 Amendment A (Oct. 1, 1995)) at 14 (emphasis added).

Here again, C-Cation seeks to erase critical limitations by offering a construction that would render meaningless the term "predetermined." By definition, before any assignment of channels to a remote terminal, there must be a determination of what channels to assign to that remote. Such a determination, however, is not a *pre*determination. If it were, then every channel assignment is predetermined. When the patentee added the "predetermined" language to obtain allowance for the claims, he surely did not intend that the language had no practical significance, as C-Cation now advocates. This Court should adopt Defendants' construction instead.

2. "Pair" of Signalling Data Channels

C-Cation similarly seeks to avoid the consequences of the deliberate decision to claim a "pair" of predetermined signalling data channels. C-Cation would now ask this Court to delete "pair" from the claims and replace it with the word "two." But a "pair" is not simply "two," it is a uniquely coupled "two." A "pair" of shoes, for example, is not merely any two shoes; it is a unique combination: a left shoe coupled with its matching right shoe. Defendants' use of the term "coupling" is not only a conventional synonym for "pairing," it comes directly from the Summary of the Invention. Ex. 1 at Col. 3:49-50 ("the specific forward and reverse signalling data channels" are "coupl[ed].")

C-Cation's reliance on Fig. 3 for support is misplaced. Fig. 3 describes three distinct channel arrangements. However, the patent specifies that only one of these three arrangements depicts a "pair" of signalling data channels. According to the patent, Fig. 3(a) "depicts the simplest arraignment" with each "pair of forward and reverse signalling data channels forming a terminal group." *Id.* at Col. 7:8-19. The one-to many, or many-to-one mapping depicted in Figs. 3(b) and 3(c) are not described as "pairs" of signalling data channels.

E. Channel Monitoring and Reassignment Steps

1. Claim 1: "monitoring the status of a plurality of the signalling data channels in use … for the usability of said signalling data channels"

Defendants' Proposed Construction	C-Cation's Proposed Construction
monitoring at least two of the signalling data channels being used for conditions that preclude those channels from communicating the signalling data	monitoring at least two of the signalling data channels in use for one or more determining factors of availability

The monitoring step is the predicate for determining the need to reassign a particular remote terminal.[10] Specifically, the claimed method determines whether "one of said plurality of remote terminals *needs to be* reassigned to a different signalling channel." *See id.* at claim 1(c) (emphasis added). This reassignment is not elective or optional, nor does it occur merely because it would be advantageous, beneficial, or worthwhile. Instead, reassignment occurs only if it is *required* in order to permit signaling between the central controller and remote terminal.

The invention determines *need* based on "monitoring the status of a plurality of the signalling channels in use between said central controller and said plurality of remote terminals *for the usability of said signalling channels*." *See* claim 1(b) (emphasis added). When "monitoring" indicates that a particular remote terminal is not able to use the channel for signaling, then the remote terminal *needs* to be reassigned to a different signaling channel.[11]

Defendants' proposed construction gives effect to the language deliberately selected by the

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[10] As such, this claim term should be construed in the context of the entire claim, including the subsequent "determining" step. *See Kyocera Wireless Corp. v. Int'l Trade Comm'n*, 545 F.3d 1340, 1347 (Fed. Cir. 2008) ("[T]his court does not interpret claim terms in a vacuum, devoid of the context of the claim as a whole."); *see also* claim 1(c), discussed *infra* at Section E.2.

[11] The patent repeatedly equates the word "need" with "required." *See, e.g.*, Ex. 1 at Col. 6:28-31 ("[T]he central controller needs to have the additional intelligence for managing these channels efficiently, and to perform segmentation and reassembly."); *id.* at Col. 11:25-28 ("The central controller needs to make correlation between the poll and the response …."); *id.* at Col. 13:28-32 ("[T]he micro-processor needs to be involved in the path of data transfer ….").

patentee. The patentee's original claim merely required monitoring the *status* of the signalling data channels. The Patent Examiner rejected this claim as fatally indefinite under Section 112, noting that it was "not clear" from the claim "if the channels in use are monitored *and if so what for*." Ex. 8 ('883 Office Action (Aug. 4, 1995)) at 2 ¶ C (emphasis added). In response, the patentee specified that the monitoring was directed to whether or not the signalling channels were "usable." *See* Ex. 7 at 2, 12 (amending claim 1(b) to overcome the Examiner's Section 112 rejection). In doing so, the patentee drew upon the specification's disclosure of how the invention determines whether communication is possible:

> As depicted in FIG. 5, the central controller in the command mode sends the message destined for a specific remote terminal. … *If the expected response is not received* at the central controller from the addressed terminal after the time-out period expires, the central controller assumes that either FD-x or RD-x' *channel is not usable by the addressed remote terminal*. In this case, the central controller retries for a number of times, then proceeds with the terminal failure processing if there is still no response from the specific remote terminal. The terminal failure processing removes the failed remote terminal from the group and signals to the wide area network that *connection is not possible*.

Ex. 1 at Col. 8:1-14 (emphasis added).[12] The patentee's arguments and disclosure are entirely consistent with the ordinary meaning of "usable" and Defendants' construction.

C-Cation points to no evidence suggesting the patentee meant "one or more determining factors of *availability*" when describing and claiming the term "*usability*." On the contrary, claims 3 and 5 make clear that the steps for monitoring "usability" and for determining "availability" are separate and distinct. And Fig. 6 of the '883 patent—a flow chart of the terminal reassignment process—further confirms that the step of determining the need to reassign the remote terminal (represented by the "reassignment" diamond), based upon results of monitoring usability, is separate

[12] C-Cation quotes portions of the specification to argue that the Court should ignore the requirement that reassignment be based upon *need*. *See* Dkt. 187 at 20-21. But none of the statements cited by C-Cation use the claim terms "need" or "usability." *See* Ex. 1 at Col. 6:54-57; *id.* at Col. 8:32-34.

and distinct from the step of determining the availability of other channels once that need is established (represented by the "available capacity on another channel" diamond).

C-Cation complains that Defendants seek to exclude factors relating to "availability" from their construction, but it is C-Cation who seeks to erase any meaningful limitation by equating "usability" with as little as a *single* factor bearing upon "availability." When Dr. Cheng sought to recite the specifics of "usability," he did so in claim 3: (a) calculating the aggregate load requirements of the channels, (b) monitoring past collisions, (c) monitoring transmission error counts, *and* (not "or") (d) sensing the status of channels for failure. C-Cation's construction that *any* single factor pertaining to "*availability*" should define the scope of "*usability*"—terms that the intrinsic record differentiates—makes no sense.

2. Claim 1: "determining whether one of said plurality of remote terminals needs to be reassigned"

Defendants' Proposed Construction	C-Cation's Proposed Construction
deciding whether a specific remote terminal can no longer communicate signalling data with the central controller over the pair of predetermined signalling data channels.	Phrase should be given its ordinary meaning and does not require additional construction other than the phrase "remote terminals" as set forth above.

As the patent explains, the "need" to reassign a particular terminal stems from the inability to continue communications with that terminal over the predetermined pair of signalling data channels. It remains, however, to construe what is meant by "whether *one* of said plurality of remote terminals" needs to be reassigned.

Again, the patentee's choice of language was deliberate. The limitation does not speak of determining if an unspecified terminal needs to be reassigned, or if "*any*" terminal needs to be reassigned, or if "*one or more*" terminals need to be reassigned. Rather, the determination recited in the claim is a determination that is made with respect to whether a specific terminal (*i.e.*, "one of said plurality") requires reassignment.

During prosecution, the patentee emphasized this terminal-specific determination in distinguishing his invention over the prior art. Seeking to overcome the Examiner's rejection based upon the prior-art *Grauel* reference, the patentee argued that *Grauel* did not disclose the selection of a specific remote terminal for reassignment:

> [*Grauel*] teaches that each control channel covers a range of mobile radio stations with qualifying identifiers. Grauel's base radio station "meters" the aggregate traffic load of the control channels and adjusts the group codes of the control channels for load spreading. *Therefore, it is not intended to select any individual mobile radio station for reassignment.*

Ex. 7 at 13 (emphasis added). Defendants' construction makes this purported aspect of the invention—the intention to select a specific, individual remote terminal for reassignment—clear.

3. Claims 1 and 5: "is available"

Defendants' Proposed Construction	C-Cation's Proposed Construction
having spare capacity and acceptable reliability	Phrase should be given its ordinary meaning and does not require additional construction

Contrary to C-Cation's assertions, the jury cannot be left to speculate on what "availability" means in the context of a multiple access communications system, particularly when C-Cation has already demonstrated its intention to confuse (and conflate) "availability" and "usability," and write "need" completely out of the claims.

In the context of a multiple access communication system, one essential aspect of "availability" is spare capacity. Indeed, claim 5 of the '883 patent confirms this. Moreover, the specification acknowledges that even a channel with spare capacity might not be "available" unless it is able reliably to support communication of the signalling data. *See, e.g.*, Ex. 1 at Col. 6:19-23 ("[T]he management scheme can relocate the FD [signalling data] to a channel that is better suited for data transmission while FB channel carrying normal voice communication can tolerate a considerable more noisy channel than FD channel is able to."). Defendants' proposed construction properly

captures these indicia of "availability" as defined by the patent.

4. Claim 1: "reassigning by said central controller said remote terminal to a different and suitable signalling data channel"

Defendants' Proposed Construction	C-Cation's Proposed Construction
commanding the remote terminal, by the central controller and based upon the determinations of need and availability, to change to a different and suitable signalling data channel	Phrase should be given its ordinary meaning and does not require additional construction other than the phrases "remote terminal" and "signalling data channel" as set forth above.

C-Cation does not specifically take issue with any portion of Defendants' proposed construction, nor does it contend that Defendants' construction misrepresents the invention. Indeed, the patent makes clear that the central controller reassigns remote terminals by commanding them to change channels. *See e.g.*, *id.* at Col. 8:50-53 ("[T]he central controller will … command[] the remote terminal to tune to the assigned channels."); *id.* at Col. 8:61-9:6 ("Based upon the central controller's command … the remote terminal either tunes to the assigned FD and RD channels ….").

Defendants' construction is true to the claim language and the specification, and far more comprehensible to a jury than the awkward syntax of the claim.

The remaining aspects of Defendants' proposed construction are inherent in the claim. "Reassignment" is not a step performed in the abstract; it is an outcome of the "monitoring" and "determining" steps that precede it. And the claim itself requires that any reassignment be to a "different and suitable" signalling data channel.

5. Claim 5: "new signalling data channel"

Defendants' Proposed Construction	C-Cation's Proposed Construction
unused signalling data channel	Phrase should be given its ordinary meaning and does not require additional construction other than the phrase "signalling data channel" as set forth above.

Claim 5 further defines claim 1's limitation of "determining whether a different and suitable signalling data channel is available other than said predetermined channel" by describing a two-step

process. In the first step of this process, the existing signalling data channels are sensed for whether they have spare capacity—a step that would only occur (and would only make sense) for channels already in use because unused channels would have their full capacity available for use. In step two, a new signalling data channel is allocated if there is no spare capacity in the existing signalling data channels and a new channel is available, or in other words, an *unused* channel is available.

The specification is consistent with Defendants' construction. Referring to Fig. 6 of the '883 patent, the specification explains that "*[i]f there is no available signalling data channel already in use*, the central controller will check for available channel [sic] from the pool of transmitters and/or the poll [sic] of receivers, and proceeds with allocation if there is available channel [sic] from the pool[.]" *Id.* at Col. 8:44-50 (emphasis added) and Fig. 6. The intrinsic record thus confirms that a "new signalling data channel" is not just any channel that is different from the predetermined channel. Rather, it is an *unused* signalling data channel.

F. Polling and Contention-Resolution Scheme

1. Claim 6: "polling a plurality of said plurality of remote terminals simultaneously"

Defendants' Proposed Construction[13]	C-Cation's Proposed Construction
soliciting at the same time all terminals assigned to a given forward signalling data channel	soliciting two or more of the plurality of remote terminals simultaneously

The first step of Dr. Cheng's purportedly novel "asynchronous signalling protocol" involves a "general polling" scheme that solicits at the same time a response from all terminals assigned to a given forward signalling data channel (the "plurality of said plurality"). *See, e.g.*, *id.* at Col. 2:36-42; *id.* at Col. 2:54-58. Every reference in the specification to the "general polling" scheme describes the same process: the central controller initiates a poll to every remote terminal assigned to a given

[13] The parties have agreed that the term "polling" should be construed by the Court as "soliciting." *See* Dkt. 186-1 at 48-52.

forward signalling data channel, which is done "in a parallel fashion" across multiple forward signalling data channels in an overlapping manner. *See id.* at Col. 2:25-28; *see also id.* at Col. 2:54-58 ("The central controller initiates the general polling on each signalling data channel in parallel to solicit request [sic] from *all terminals assigned to the signalling data channel*.") (emphasis added); *id.* at Abstract ("Communication between the central controller and the remote terminals follows a multiple access scheme controlled by the central controller via polling procedure on each of the forward signalling data channels independently."); *id.* at Col. 3:55-58 ("The central controller … solicits requests via a general poll from remote terminals assigned to the forward signalling data channel."). Defendants' proposed construction not only comports with these explanations of the invention, but also captures the claim language's concept of polling a "plurality of said plurality" since "all terminals" on a given signalling data channel reflect a subset of all terminals on the system.

This polling scheme is not merely an exemplary or preferred embodiment; it is the invention. *Every* embodiment implements this functionality. *See, e.g.*, *id.* at Col. 7:51-53 ("The polling process is executed in parallel for each of the FD-x [forward signalling data channels] in an independent fashion."); *id.* at Col. 7:58-60 ("[T]he central controller solicits for request from remote terminals assigned to the FD channel via a general poll."); *id.* at Col. 9:64-65 (A "selective poll with range r01 is equivalent to a general poll."). Defendants' proposed construction properly captures this aspect of the claimed invention. *See Lizardtech, Inc. v. Earth Resource Mapping, Inc.*, 433 F.3d 1373, 1375 (Fed. Cir. 2006) ("[M]erely calling an embodiment 'preferred,' when there are no others, does not entitle one to claims broader than the disclosure."); *Tap Pharmaceutical Products, Inc. v. Owl Pharmaceuticals LLC*, 419 F.3d 1346, 1353-54 (Fed. Cir. 2005).

C-Cation's proposed construction finds no support in the specification. Indeed, if it were implemented, it would not serve the central purpose of identifying pending requests that create contention on the network. Only a general poll directed to all remotes on a signalling data channel

would ensure detection of the two or more remotes having pending requests as required by the claim.

In short, C-Cation's construction would render the remainder of the claim meaningless and nonsensical. The Court should adopt Defendants' instead.

2. Claim 6: "resolving contention … by said central controller if there is a pending request from more than one remote terminal on the same signalling data channel"

Defendants' Proposed Construction	C-Cation's Proposed Construction
using selective polling by the central controller to allow transmission by only a single remote terminal after detecting collision of two or more terminals' requests on a signalling data channel	"contention" should construed as "a condition when two or more remote terminals try to transmit data at the same time," and otherwise, the phrase should be given its ordinary meaning and does not require additional construction other than the phrases "remote terminal," and "signalling data channel" as set forth above.

The '883 patent purports to set forth an "invention [that] differs from the prior art" by, among other things, employing "a selective polling sequence for contention resolution." Ex. 1 at Col. 2:25-30. Its "claims cannot be of broader scope than the invention that is set forth in the specification." *On Demand*, 442 F.3d at 1340; *Honeywell*, 452 F.3d at 1318 (holding that this maxim is particularly strong where a feature of the invention is described as the "present invention"). "The public is entitled to take the patentee at his word …." *Id.* at 1316-18; *see also Lizardtech*, 433 F.3d at 1375 ("[O]therwise [claims] would be interpreted to cover inventions or aspects of an invention that have not been disclosed.").

The only disclosed method of resolving contention is by selective polling. The Abstract states that "[i]n case of collision, the central controller engages the remote terminals in a selective polling process to resolve the contention." The specification also discloses that "[o]nly when collision occurs, *this method* [*i.e.*, "this invention"] will enter a selective polling sequence for contention resolution." Ex. 1 at Col. 2:25-30 (emphasis added); *see also id.* at Col. 2:54-58 ("Only when collision is detected, the central controller starts to poll selectively for resolution."); *id.* at Col. 3:63-

67 ("[T]he decision process is designed to improve the effectiveness of the selective polling coverage during the contention resolution process."); *id.* at Col. 7:64-67 ("In case of collision or transmission error, the central controller enters a selective polling cycle …."); *id.* at Col. 9:14-17 ("In case of collision with other remote terminals, the remote terminal follows the instructions from the central controller through selective polling process to resolve the contention."); *id.* at Col. 9:54-59 (describing how remote terminals "are further separated in ranges during the selective polling process for resolving contention"). Likewise, Figs. 10-12 and 14-15 depict a diagram or decision graph of the selective polling method of contention resolution. *See id.* at Col. 4:48-67. There is no disclosure of *any* alternative contention resolution method for the invention in the intrinsic record. And during prosecution of the '883 patent, the patentee distinguished his invention from prior art—in particular, the contention resolution scheme in the Carrier Sense Multiple Access (CSMA) protocol. *See* Ex. 7 at 15.

Dr. Cheng has elsewhere contrasted the invention's contention resolution scheme against "back-off" techniques, such as in the CSMA protocol. For example, in one of his later patents, Dr. Cheng identified the "contention-resolution protocols" as either "exponential back-off with random interval in the case of CSMA/CD *or contention polling in case of U.S. Pat. No. 5,563,883*." Ex. 9 (U.S. Patent No. 7,002,984) at Col. 1:15-19 (discussing these methods under the title "how to detect and resolve contention (often called collision)").[14]

In sum, the overwhelming intrinsic and extrinsic evidence supports construing "resolving contention … by said central controller if there is a pending request from more than one remote terminal on the same signalling data channel" to mean "using selective polling by the central controller to allow transmission by only a single remote terminal after detecting collision of two or

[14] In fact, "a selective polling procedure" is exactly how another person of skill in the art described and understood the collision-resolution method disclosed in the '883 patent. *See* Dkt. 186 at 56 (citing from Ex. 10 (Patent EP 1060585)).

more terminals' requests on a signalling data channel."

C-Cation, by contrast, asserts that its claim covers *any* method for resolving contention, whether or not contemplated by the inventor at the time of his application. C-Cation even refuses to exclude from its construction the prior-art methods for resolving contention that Dr. Cheng identified, distinguished, and criticized as inadequate. *See, e.g.*, Ex. 1 at Col. 1:30-57. C-Cation, however, is not entitled exclude others from practicing that which the patent expressly distinguished from Dr. Cheng's supposed invention. Defendants' proposed construction should be adopted.

G. Claims 1 and 4: "said predetermined signalling data channel" / Claims 1 and 5: "said predetermined channel"

Claim Term	Defendants' Proposed Construction	C-Cation's Proposed Construction
said predetermined signalling channel	Indefinite under 35 U.S.C. 112 ¶ 2 due to lack of any express or implied antecedent basis.	one of the signalling data channels in use
said predetermined channel	Indefinite under 35 U.S.C. 112 ¶ 2 due to lack of any express or implied antecedent basis.	one of the signalling data channels in use

A patent claim must "particularly point[ ] out and distinctly claim[ ] the subject matter which the applicant regards as his invention," *see* 35 U.S.C. § 112, ¶ 2, and is "indefinite if it does not reasonably apprise those skilled in the art of its scope." *Microprocessor Enhancement Corp. v. Texas Instruments Inc.*, 520 F.3d 1367, 1374 (Fed. Cir. 2008). The above claim terms are indefinite because they lack the antecedent basis required for using the article "said," which purports to refer to an earlier-introduced claim element.

Step (a) of claim 1 recites that the remote terminals are initially assigned to "a pair of predetermined signalling data channels." C-Cation argues that "said predetermined [signalling data] channel" refers to "each of the channels that comprise the recited 'a pair of predetermined signalling data channels' in step 1(a)"; and that "said" channel refers not to a particular channel, but to "either the forward or reverse signalling data channel to which the remote terminal is assigned by the central

controller." Dkt. 187 at 24. The word "said," however, must refer to a *particular* channel. Here, it is unclear which channel provides the necessary antecedent basis, thus rendering the claims indefinite. Indeed, the Manual of Patent Examining Procedure (MPEP) §2173.05(e) provides an example precisely on point:

> A claim is indefinite if it contains words or phrases whose meaning is unclear: The lack of clarity could arise where a claim refers to "said lever" or "the lever," where … two different levers are recited earlier in the claim, the recitation of "said lever" in the same or subsequent claim would be unclear where it is uncertain which of the two levers was intended.

Just like the MPEP's indefiniteness example above, the initial assignment in step 1(a) of the '883 patent is of a "*pair* of predetermined signalling data channels," but the disputed terms direct the public back to an indeterminable single "said" channel.

The patent specification does not resolve this ambiguity. Instead, the specification merely confirms that the predetermined channels are uniquely coupled in pairs and that the remote terminal is initially assigned to a *pair* of predetermined channels. *See, e.g.*, Ex. 1 at Col. 3:47-50 ("central controller assigns the remote terminal to a group supported by *coupling of the specific forward and reverse* signalling data channels"); *id.* at Col. 7:8-10 ("part (a) of FIG. 3 depicts the simplest arrangement with *each pair of forward and reverse* signalling data channels forming a terminal group") (all emphases added). The specification excerpt cited by C-Cation—Col. 8:44-50—does not support its position that "said predetermined channel" can refer to either channel of the assigned pair. Rather, it discloses that channel selection is made from a pool of resources (*see id.* at Col. 8:35-38 (referring to "determining factors of signalling data channels availability")) and that the "remote terminal will be assigned to the group." *See id.* at Col. 8:43-44. In particular, the specification reiterates that channel assignment is done in pairs. *See id.* at Col. 9:3-5 ("remote terminal … tunes to the assigned FD and RD channels").

This Court's decision in *Synqor* is also instructive. *See Synqor, Inc. v. Artesyn Technologies, Inc.*, 2:07-CV-497-TJW-CE, 2010 WL 2991037 (E.D. Tex. July 26, 2010). In *Synqor*, the claim

recited a "transformer having plural windings including at least one primary winding and at least one secondary winding"; and the later-recited, disputed term was "plural of the windings of the transformer." *Id.* at *26-27. Like C-Cation here, Synqor argued that the disputed term could refer to either the primary windings or secondary windings. Synqor also argued that even if the specification did not disclose these options, it was irrelevant for a finding of indefiniteness. Rejecting Synqor's argument, this Court explained that the "issue is precision and the ability of one of ordinary skill in the art to discern the claim scope, not lack of written description." *Id.* at *27. The Court declined to "rewrite an admittedly defective claim to cover a configuration or feature not disclosed in the specification." *Id.*

Here, the Court should likewise reject C-Cation's improper attempt to attribute the required antecedent basis for "said" to either of the "pair of predetermined channels." *See Imperium (IP) Holdings, Inc. v. Apple, Inc.*, No. 4:11-CV-163, 2013 WL 321994, at *4 (E.D. Tex. Jan. 28, 2013) (singular term "pixel" cannot provide antecedent basis for plural term "pixels"); *Parker-Hannifin Corp. v. Baldwin Filters, Inc.*, No. 1:07-CV-1709, 2008 U.S. Dist. LEXIS 108152, at *8-9 (N.D. Ohio July 3, 2008) ("said one of said first and second end caps" indefinite for lack of antecedent basis). For these reasons, the Court should find the language "said predetermined [signalling data] channel" indefinite.

V. CONCLUSION

For the foregoing reasons, Defendants respectfully request that the Court adopt Defendants' constructions and find the claim language "said predetermined [signalling data] channel" indefinite.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

I certify that on April 5, 2013, all counsel of record were served with a copy of this document via the Court's CM/ECF system per Local Rule CV-5(a)(3).

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